Claims

We claim:

1. A computer-implemented method for programmatically modifying a graphical program, comprising:

executing a graphical program generation (GPG) program;

the GPG program receiving information, wherein the information specifies functionality of the graphical program;

the GPG program programmatically modifying the graphical program in response to said information specifying the functionality of the graphical program, such that the graphical program implements the specified functionality.

2. The method of claim 1,

wherein the information specifies a change to functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

3. The method of claim 1, wherein said programmatically modifying the graphical program comprises modifying the graphical program without any user input specifying the modification during said modifying.

4. The method of claim 1, wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

5. The method of claim 4, wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

6. The method of claim 1, wherein the graphical program includes a block diagram portion comprising a plurality of interconnected nodes;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

7. The method of claim 1, wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

8. The method of claim 1,

wherein the graphical program is a virtual instrument.

9. The method of claim 1,

wherein the GPG program is a graphical program.

10. The method of claim 1,

wherein the information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

11. The method of claim 1,

wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

12. The method of claim 1,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

13. The method of claim 1,

wherein the graphical program implements a computational process;

wherein the information received by the GPG program specifies a change to the computational process;

wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed computational process.

14. The method of claim 1,

wherein the graphical program implements an algorithm;

wherein the information received by the GPG program specifies a change to the algorithm;

wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed algorithm.

15. The method of claim 1,

wherein the graphical program implements a prototype;

wherein the information received by the GPG program specifies a change to the prototype;

wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed prototype.

16. The method of claim 1,

wherein the graphical program implements a test executive sequence;

wherein the information received by the GPG program specifies a change to the test executive sequence;

wherein the GPG program is operable to programmatically modify the graphical program such that the graphical program implements the changed test executive sequence.

17. The method of claim 1,

wherein said GPG program receiving information comprises the GPG program receiving user input specifying desired functionality of the graphical program;

wherein the GPG program is operable to programmatically modify the graphical program to implement the specified desired functionality.

18. The method of claim 1,

wherein the GPG program is operable to perform a plurality of modifications to the graphical program, depending on the received information.

19. The method of claim 1,

wherein said GPG program programmatically modifying the graphical program comprises the GPG program calling an application programming interface (API) enabling the programmatic modification of a graphical program.

20. The method of claim 1,

wherein said GPG program programmatically modifying the graphical program comprises the GPG program programmatically requesting a server program to modify the graphical program.

21. The method of claim 20,

wherein the server program is an application instance of a graphical programming environment.

22. The method of claim 1,

wherein the GPG program comprises a client portion and a server portion;

wherein the client portion is operable to utilize an application programming interface (API) in order to direct the server program to programmatically modify the graphical program.

23. The method of claim 22,

wherein the client portion of the GPG program executes in a first computer system;

wherein the server portion of the GPG program executes in a second computer system;

wherein the first computer system is connected to the second computer system.

24. The method of claim 1, further comprising:

executing the modified graphical program;

wherein the graphical program is operable to perform the specified functionality during execution.

25. The method of claim 1, further comprising:

programmatically creating the graphical program prior to said receiving the information and said programmatically modifying the graphical program.

26. The method of claim 25, further comprising:

maintaining an association between the graphical program and the received information.

27. The method of claim 26,

wherein the association enables the GPG program to determine a current state of the graphical program.

28. The method of claim 25, further comprising:

locking the graphical program, wherein said locking prevents a user from modifying the graphical program.

29. A method for programmatically modifying a graphical program, the method comprising:

executing a graphical program generation (GPG) program;

the GPG program receiving initial information, wherein the initial information specifies functionality of a graphical program;

the GPG program programmatically generating the graphical program in response to said initial information specifying the functionality of the graphical program, wherein the graphical program implements the specified functionality;

the GPG program receiving subsequent information, wherein the subsequent information specifies modified functionality of the graphical program;

the GPG program programmatically modifying the graphical program in response to said subsequent information specifying modified functionality of the graphical program, such that the graphical program implements the specified modified functionality.

30. A method for creating a graphical program, the method comprising:

receiving user input specifying initial program information;

programmatically generating a graphical program in response to the initial program information;

performing the following one or more times:

receiving user input specifying subsequent program information;

programmatically modifying the graphical program in response to the subsequent program information.

31. The method of claim 30,

wherein the subsequent program information comprises a modification to the initial program information.

32. The method of claim 30,

wherein the subsequent program information specifies a change to functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

33. The method of claim 30,

wherein the subsequent program information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

34. The method of claim 30,

wherein said programmatically modifying the graphical program comprises modifying the graphical program without any user input specifying the modification during said modifying.

35. The method of claim 30,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

36. The method of claim 35,

wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

37. The method of claim 30,

wherein the graphical program includes a block diagram portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

38. The method of claim 30,

wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

39. The method of claim 30,

wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

40. The method of claim 30,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

41. The method of claim 30, further comprising:

displaying the programmatically modified graphical program after said programmatically modifying the graphical program

42. The method of claim 30, further comprising:

locking the graphical program, wherein said locking prevents a user from directly modifying the graphical program.

43. The method of claim 30, further comprising:

maintaining an association between the graphical program and the program information.

44. A method for creating a graphical program, the method comprising:

receiving user input specifying initial program information;

programmatically generating a graphical program in response to the initial program information;

performing the following one or more times:

receiving user input modifying the initial program information, producing modified program information;

programmatically modifying the graphical program in response to the modified program information.

45. A method for modifying a graphical program, the method comprising:

displaying the graphical program on a display, wherein the graphical program corresponds to first program information;

receiving user input modifying the first program information, producing modified program information;

programmatically modifying the graphical program in response to the modified program information.

46. A memory medium for programmatically modifying a graphical program, the memory medium comprising program instructions executable to:

receive information, wherein the information specifies functionality of the graphical program;

programmatically modify the graphical program in response to said information specifying the functionality of the graphical program, such that the graphical program implements the specified functionality.

47. The memory medium of claim 46,

wherein the information specifies a change to functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

48. The memory medium of claim 46,

wherein said programmatically modifying the graphical program comprises modifying the graphical program without any user input specifying the modification during said modifying.

49. The memory medium of claim 46,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

50. The memory medium of claim 49, wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

51. The memory medium of claim 46, wherein the graphical program includes a block diagram portion comprising a plurality of interconnected nodes;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

52. The memory medium of claim 46, wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

53. The memory medium of claim 46,

wherein the information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

54. The memory medium of claim 46,

wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

55. The memory medium of claim 46,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

56. A memory medium comprising program instructions executable to:

receive user input specifying initial program information;

programmatically generate a graphical program in response to the initial program information;

perform the following one or more times:

receive user input specifying subsequent program information;

programmatically modify the graphical program in response to the subsequent program information.

57. The memory medium of claim 56,

wherein the subsequent program information comprises a modification to the initial program information.

58. The memory medium of claim 56,

wherein the subsequent program information specifies a change to functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

59. The memory medium of claim 56,

wherein the subsequent program information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

60. The memory medium of claim 56,

wherein said programmatically modifying the graphical program comprises modifying the graphical program without any user input specifying the modification during said modifying.

61. The memory medium of claim 56,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

62. The memory medium of claim 61,

wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

63. The memory medium of claim 56,

wherein the graphical program includes a block diagram portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

64. The memory medium of claim 56,

wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

65. A system for programmatically modifying a graphical program, the system comprising:

a processor coupled to a memory, wherein the memory stores a graphical program generation (GPG) program;

wherein the processor is operable to execute the GPG program to:

receive information, wherein the information specifies functionality of the graphical program;

programmatically modify the graphical program in response to said information specifying the functionality of the graphical program, such that the graphical program implements the specified functionality.

66. The system of claim 65,

wherein in performing said programmatically modifying the graphical program, the processor is operable to modify the graphical program without any user input specifying the modification during said modifying.

67. The system of claim 65,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

68. The system of claim 67,

wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

69. The system of claim 65, wherein the graphical program includes a block diagram portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

70. The system of claim 65, wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.

71. The system of claim 65,

wherein said programmatically modifying the graphical program comprises programmatically adding graphical source code to the graphical program.

72. The system of claim 65,

wherein said programmatically modifying the graphical program comprises programmatically removing graphical source code from the graphical program.

73. A system for programmatically creating a graphical program, the system comprising:

a processor coupled to a memory, wherein the memory stores program instructions;

wherein the processor is operable to execute the program instructions to:

receive user input specifying initial program information;

programmatically generate a graphical program in response to the initial program information;

perform the following one or more times:

receive user input specifying subsequent program information;

programmatically modify the graphical program in response to the subsequent program information.

74. The system of claim 73,

wherein the subsequent program information comprises a modification to the initial program information.

75. The system of claim 73,

wherein the subsequent program information specifies a change to functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises implementing the specified change to functionality of the graphical program.

76. The system of claim 73,

wherein the subsequent program information specifies new functionality of the graphical program;

wherein said programmatically modifying the graphical program comprises programmatically modifying the graphical program such that the graphical program implements the new functionality.

77. The system of claim 73,

wherein in performing said programmatically modifying the graphical program, the processor is operable to modify the graphical program without any user input specifying the modification during said modifying.

78. The system of claim 73,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

79. The system of claim 78,

wherein said programmatically modifying the graphical program includes programmatically changing interconnections among the plurality of interconnected nodes.

80. The system of claim 73,

wherein the graphical program includes a block diagram portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the block diagram portion.

81. The system of claim 73,

wherein the graphical program includes a user interface portion;

wherein said programmatically modifying the graphical program includes programmatically modifying the user interface portion.